NOVA SCOTIA
GAMING CORPORATION

Nova Scotia

VLT Time Change

Findings Report

November 2005

CORPORATE RESEARCH ASSOCIATES INC

Nova Scotia VLT Time Change Report

Introduction

Corporate Research Associates (CRA) was commissioned by Nova Scotia Gaming Corporation (NSGC) to conduct this study. The study is conducted via telephone interviewing. The primary goal of the study is to help assess the impact of the shutdown of video lottery terminals at midnight.

Survey Methodology

Respondents. This study involves two distinct and valuable samples:

- ***General Population Sample*** – To assess the overall impact of the changes throughout the province, a study of the overall general adult population was required. This general population sample is the only way to assess movement (growth or reduction) in the VL player base and its various player sub categories by player frequency (i.e., core weekly players, regular monthly players, and casual yearly players) and by CPGI classification (i.e., non-problem, low risk, moderate risk, and problem gambler). In addition, the representative general population sample is used to measure all provincial frequency rates (i.e., % of VL play among the total population).

- ***Additional VL Player Sample*** – However, the general population sample would naturally produce too few video lottery players to reliably profile specific sub groups of VL players (i.e., problem players, weekly players, etc). The solution was the inclusion of an additional sample of yearly VL players. This targeted sample is only used for more detailed profiling of VL sub groups and is not used to determine provincial frequency rates.

Sampling. This tracking study was designed in such a way as to have solid quarterly results for the general population and VL player subgroups. Data has been collected from July 19 to 23, from August 28 to September 7, and from September 21 to October 5. The three samples will be combined in this report to create larger sample sizes.

Overall, 500 surveys were collected each month. 400 surveys per month were completed with the general NS adult population age 19+. 100 additional surveys per month were completed with those who have played VL in the last year. This creates a combined total of 1,500 interviews, of which 545 are VL players. This results in a margin of error for the general population sample of +/- 2.5%, at a 95% confidence level, and +/- 4.2% for the VL player sample.

Reporting. The results pertaining to the time change will be presented in this Q&A style top-line report. The remaining survey questions will be presented in tabular form only. That said, two key player segments form the primary focus of this report:

- ***VL Player Base*** – *This is defined as those who have played VL at least once in the last year.*
- ***After-Midnight Players*** – *This is defined as VL players who used to play after midnight at least once a month or more on a regular basis, prior to the time change.*

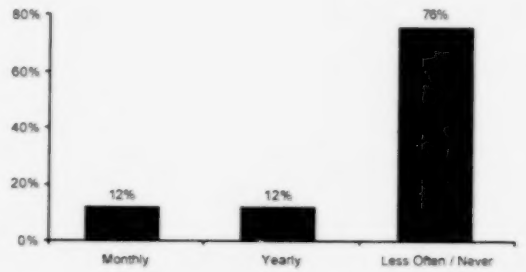
Revenue Analysis. In addition to play and opinion measures captured via surveys, a revenue analysis was the other core factor in measuring the impact of the changes. Revenue results were provided to CRA from the Atlantic Lottery Corporation.

Q. Who used to play VL after midnight?

A. Problem gamblers were the most regular "after-midnight" players prior to the change.

Overall, 12% of the annual Nova Scotia video lottery player base used to play VLTs after midnight on a regular monthly basis (prior to the reduction in hours).

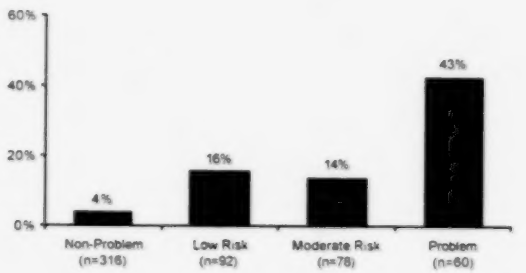
Frequency of After Midnight Play (before change)
- Among the Annual VL Player Base -
(n=545)



F2

By CPGI classifications, the higher risk profiles were much more likely to be playing after midnight. In fact, as seen in the graph below, 43% of all problem players were regularly playing VL after midnight before the change, compared to only 4% of non-problem players.

Regular Monthly Play After Midnight (before change)
by CPGI Classifications



F2

When profiling "after-midnight players" prior to the change, the problem gamblers accounted for 40% of all regular after-midnight players. This behavior is well over-indexed compared to the prevalence of problem players among the total annual VL player base. That noted, it is this over-indexed problem play after midnight that drove the decision to turn the VLTs off at midnight.

As will be seen in this report, it is the problem gamblers that have been most affected by the reduction of hours. However, knowing that they were previously the most frequent players after midnight, it is not that surprising that problem players would be impacted the most.

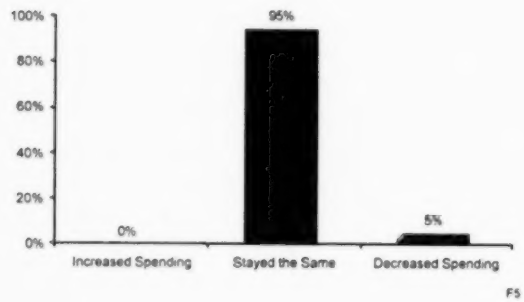
Q. Has the change in hours affected players?

A. Yes, the time change has had an immediate impact on some players.

Results from the VL tracking study suggest that the time change has had an immediate impact on a small percentage of the total VL player base.

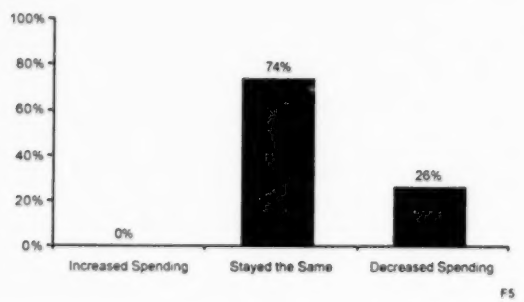
In the most direct survey question on spending impact, VL players were asked if they were spending more, less, or the same as a result of the time change. As seen in the graph below, 5% of the total VL player base have decreased their spending.

Impact of the Change in Hours on Spending
- Among the Annual VL Player Base -
(n=545)



Among the previous regular after-midnight players, 26% have decreased their spending. The remaining 74% of these past midnight players do not perceive any change in their spending. This does not mean that they have simply shifted their play. Other questions indicate that only a very small percentage have migrated their play to other times (page 5).

Impact of the Change in Hours on Spending
- Among the Regular After-Midnight Players -
(n=65)



Among this group of previous after-midnight players who have decreased their spending, the average drop in spending is quite diverse from player to player, ranging from approximately $20 a week, upwards to $300 a week. *[Caution: based on self-reported estimates from a small sample of players.]*

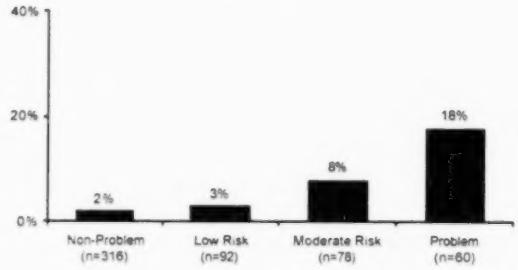
Q. Which players have been impacted the most?

A. Problem gamblers have been impacted the most.

The vast majority of players who have decreased their spending are problem gamblers. As the graph clearly illustrates, the skew towards the higher risk profiles is actually quite strong. For example, 18% of all problem gamblers have decreased their spending due to the time change compared to only 2% of non-problem players.

Decreased Spend Due to the Change in VL Hours
by CPGI Classifications

- Among the Annual VL Player Base -
(n=545)



F5

Although many problem gamblers have reduced their VL play, this change in behavior may be their initial reaction. As with any major change, time will tell if these decisions are sustained.

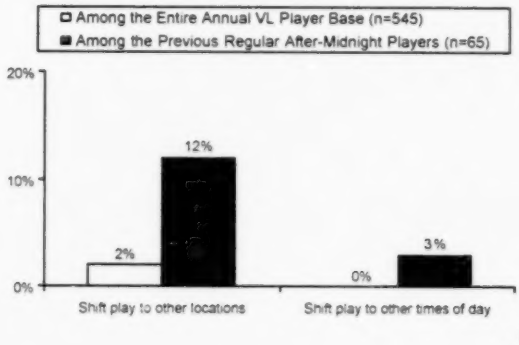
Q. Is play simply shifting to other times/locations?

A. No, very little play is being diverted to other times and/or locations.

Based on the behaviors of VL players measured in the survey, the time change appears to have caused more "reduction of play" rather than "shifting of play". Among those impacted by the time change to date, extreme few have diverted their play to other times and/or locations (i.e., casinos, First Nation locations).

In fact, only 2% of the entire Nova Scotia VL player base has shifted their play patterns and this is almost exclusively a shift in location. This shift in play is greater among the regular after-midnight players, but it is still minimal.

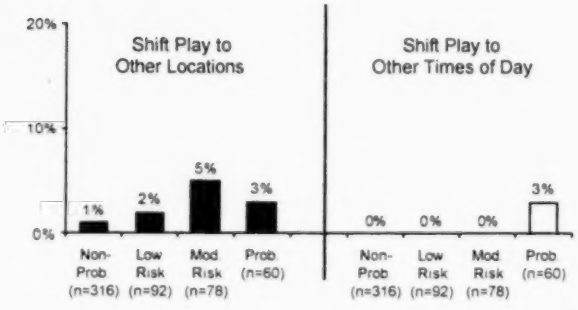
Shifted Play as a Direct Result of the Time Change



F3/F7

Looking at the shifts in play behaviors by CPGI, the problem players are the most likely to have shifted their play. Still, they only account for a very small minority.

Shifted Play as a Direct Result of the Time Change
- By CPGI Among the Annual VL Player Base -
(n=545)



F3/F7

Q. Has the change impacted revenues?

A. Yes, the time change has caused an estimated 5.1% to 8.7% loss in net revenues.

Initial assessment of VL sales, since the change mandating that the VLTs be turned off at midnight, indicates that sales are down. This is evident whether comparing to the previous months (immediately prior to the change) or to the same time period last year.

In examining the early impact of recent VL changes in revenue, in addition to the reduction in hours of operation, several factors are potentially influencing this decline, including reduction in the number of terminals, timing, software upgrades, and seasonality. However, the reduction in the number of terminals year over year was minimal (1.7% or 55 fewer terminals), and likely play only a minor role in the sales decline.

The timeframe used for this analysis is July 1, 2005 to September 30, 2005. We have used three methods to estimate the impact on sales.

1) The first method utilizes month over month sales based on prior year's sales trends and impacts from software upgrades.
2) The second method uses the historical trends from sales of July, August and September 2005 over the prior three months sales of April, May and June, 2005.
3) The third method is a straight comparison from the prior year for the same time period.

Comparison To:	Estimated Sales Loss Since the Change in Hours of Operation	
	($)	(%)
1) **Expected** – Considering seasonality and software upgrades	($2,503,396)	-5.1%
2) **Prior Three Months** – April to June vs. July to Sept., using seasonality	($3,998,155)	-8.1%
3) **Same Time Last Year** – July to Sept., 2004 vs. July to Sept., 2005	($4,452,280)	-8.7%

Due to the fact that there are multiple variables as noted above, plus other potential factors such as environmental changes, negative media attention, and terminal placement, it is impossible to measure an exact loss.

However, three months after the change, the decline is estimated to be between 5.1% and 8.7%. In any case, the drop in revenue is consistent with declines measured in the player surveys.

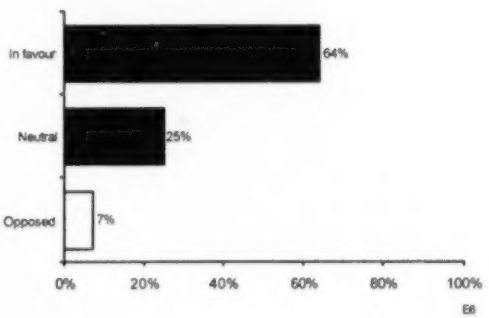
Q. Are Nova Scotians in favor of the change?

A. Yes, support for the time change is very high among VL players and the public.

In the first three months of the change, *awareness is not widespread.* Only a minority know of the midnight shut down. While VL news stories were prominently recalled (62%), only 28% of the general public were aware of the midnight shutdown (aided recall). Not surprisingly, VL players are more aware of the change in hours – 41% awareness among the annual VL player base. Recall is highest among the core weekly players (76%). In a separate unaided recall question, awareness of "terminal reductions" is greatly overshadowing the "reduction of hours".

In any case, support is high for the time schedule changes. As the graphs below show, 64% of the general public are in favour of the move, with another 25% being neutral (89% combined). Current VL players are also highly supportive of the change, with 88% in favour or neutral, while 10% of VL players are opposed to the change.

Opinion of Midnight Shutdown
- Among NS Adults -
(n = 1200)



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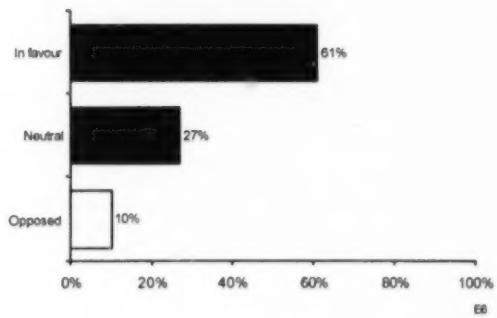
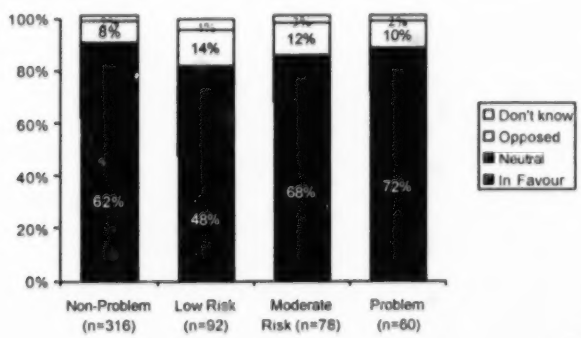


As the next graph shows, the players with the highest risk profile are the most supportive of the reduction in hours (72% in favour and only 10% opposed). In short, problem players said that the changes would help them and other players control their play and spending. The low levels of opposition among each of the CPGI categories should also be noted (8% to 14%).

Opinion of Change by CPGI Classification



E6

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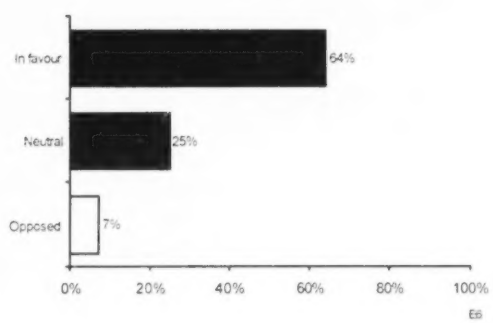

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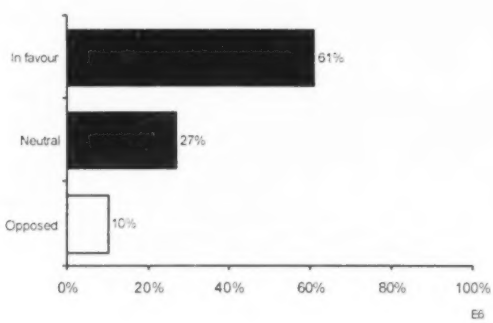

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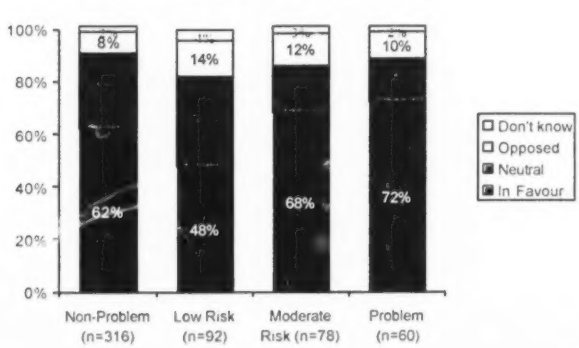

E6

Q. Can any conclusions be drawn?

A. Initial results suggest that the changes are achieving their desired effect.

Based on three months of player tracking, the initial impact of the time change appears to be quite positive. Results from the VL study suggest that the midnight shutdown is achieving its desired effect. In short, it is showing signs of curbing problem players' spending on VLTs.

Based on previous studies, problem gamblers were known to have a higher degree of play after midnight, which is the reason for the shutdown of terminals at midnight. This tracking study confirmed the higher "after-midnight play" among problem gamblers.

As such, one would expect the time change to impact problem players more so than other video lottery players, and the survey results clearly support this. Basically, as a direct result of the time change, those most likely to have reduced their spending are problem gamblers. The change is having a more negligible effect on non-problem players.

Specifically, 5% of the total video lottery player base claims to have reduced their spending as a result of the time change. By CPGI classification, 18% of all problem players surveyed have reduced their spending as a direct result of the time change, compared to only 2% of non-problem players.

It should also be mentioned that shifting play to other times and/or locations is very low at this point in time and overall terminal accessibility appears unchanged. Based on the study findings, the change appears to have successfully "curbed" play, rather than "shifted" play.

Consistent with players' self-reported declines in spending, preliminary net revenue figures are also showing a decline. Based on revenue data supplied by the Atlantic Lottery Corporation, the declined is estimated to be approximately 5% to 8%.

In addition, public support for the change in hours is very high. There is little opposition to the change, even among VL players. Most players feel it will help them and/or other players control their play and reduce their spending.

While it is difficult to predict long-term trends, the changes appear to be having their desired effect in curbing problem play.